109-DR-2004
REV: 12/13/04

PROJECT NARRATIVE

PROJECT BACKGROUND

The United States Environmental Protection Agency (USEPA) has lowered the Arsenic Maximum Contaminant Level (MCL) from 50 parts per billion (ppb) to 10 ppb. All community water systems, such as that operated by Arizona American Water (AAW) in Paradise Valley, are required to comply with the new Arsenic standard by January 2006. To comply with the USEPA mandate, AAW proposes to construct a new 19.3 million gallon per day (mgd) treatment facility using the coagulation-filtration process to remove naturally occurring arsenic from groundwater. This facility will be used to treat groundwater that supplies AAW's Paradise Valley District.

SITE DESCRIPTION

The water supply for AAW's Paradise Valley District is distributed through the Miller Road Booster Station (MRBS), which is located east of Cattletrack Road (Miller Road) and approximately a quarter mile north of McDonald Drive. The MRBS site is the proposed location for the Paradise Valley District's arsenic removal facility. The site, owned by AAW, consists of four parcels that comprise approximately 8 acres of land. Additional detail on these parcels is summarized below:

Parcel Identifier	Parcel No.	Address	Parcel Size, sf	Current Zoning	Proposed Zoning
1	174-13-931	6237 N. Miller Road	134,992	R1-43	No Change
2	174-13-932	6223 N. Miller Road	69,696	R1-43	No Change
3	174-13-934	6215 N. Miller Road	101,495	SC HP	No Change
4	174-13-935	6195 N. Miller Road	39,204	SC HP	No Change

The Paradise Valley Arsenic Removal Facility (PVARF) will be situated on the south side of the property (Parcel 2, Parcel 3, Parcel 4, and a portion of Parcel 1) and will be constructed over approximately 5 acres of the land.

The groundwater for this district is provided by seven wells: three of which are located on the MRBS property and the remaining wells are located within 2 miles of the site. The groundwater from these seven wells will be treated at this site with provisions for the addition of another well in the future. The facilities necessary for treatment, storage and distribution of water include new filtration vessels, treatment chemical storage and feed facilities, backwash clarification structures, finished water reservoirs, booster pumps, and residual solids thickening and dewatering. New administration, customer service, laboratory, and Supervisory Control and Data Acquisition monitoring facilities will be included as part of the project.

COMMUNITY INVOLVEMENT

The Community Involvement consisted of two sets of one-on-one interviews with neighbors and two Open House meetings. The first series of one-on-one interviews and the first Open House meeting were held early in the design phase to solicit input from the neighbors on the design issues of most importance to the community. After the design was further developed, a second series of one-on-one interviews and

an Open House meeting were held to solicit feedback on the design. The neighbors understood the necessity of the project and had no objections. However, they did indicate the importance of maintaining the rural character of the property. The neighbors also stated specific considerations, which are discussed in the meeting notes and addressed under Project Aesthetics. The outcome of these meetings is detailed in the Citizen Notification and Public Involvement Report included with this application.

SETBACKS

The setbacks, which will be provided from the front, side and rear property boundaries meet or exceed the R1-43 zoning requirements. The location of the Administration and Customer Service Center (Building A), located along Cattletrack Road, will be set an additional 60 feet from the property line providing a total front yard setback of 100 feet.

PROJECT AESTHETICS

During the public involvement meetings, the citizens indicated various issues of importance regarding the PVARF that they would like to have considered during the facility design. These issues included possible impacts on the surrounding community due to architecture, noise, odor, and traffic. Each item is discussed in detail in the following paragraphs.

ARCHITECTURE

The AAW property is located within an area that maintains a rural character with lots of 35,000 square feet or greater and large setbacks. The properties to the south provide a meandering pedestrian pathway along the street frontage. This pathway will be continued north along Cattletrack Road over the extent of the AAW property. In addition, AAW is providing a pedestrian pathway along the northern boundary of the PVARF that can be used by local residents to access the pathways along the Arizona Canal.

The character of the surrounding community has been incorporated during design of the buildings and facility wall to create an environment that interacts with the surrounding community. The outcome of the neighborhood meetings indicated that the facility should maintain a rural character, and the materials of construction should mirror the color and consistency found in the area. The architecture and landscape designers responsible for design of the buildings and surrounding wall have participated in the community involvement process to understand and incorporate the architectural needs of this community.

The color scheme selected for the building and wall will follow a natural desert earth tone like the surrounding properties. In addition, the colors will reflect the open desert character that still existing in this area. The building construction materials will reflect the environment surrounding the facility. The buildings will be constructed of masonry with a painted, smooth stucco finish. The Building A, most visible from Cattletrack Road, will have a pitched mission tile roof. The other two buildings will have flat roofs with parapets.

The facility will be setback from the roadway to allow for the open space along the street frontage to be maintained. Although the facility will be walled, the wall will also be setback from Cattletrack Road. In addition, the wall design will provide variations in materials of construction and landscaping to blend this structure with the surrounding properties. The wall along Cattletrack Road will have a rammed-earth texture, finish, and coloration. Other walls will be constructed of colored or painted masonry block. The wall layout will include curves and step-backs to create areas for new landscaping, break-up the mass of the wall, and assist with preservation of native landscaping.

The landscaping surrounding the PVARF will take advantage of the many existing large mesquite trees that are located throughout the property. Many of the neighbors requested that the existing mesquite trees along the canal bank remain undisturbed to provide additional visual screening. Additional landscaping will incorporate a variety of desert vegetation.

A line of sight study was prepared with views from Cattletrack Road and the east side of the Arizona Canal. The new finished water storage tanks, which are approximately the same height as the existing tanks, will not be visible from Cattletrack Road or east of the Arizona Canal. Building A, along Cattletrack Road, has an overall height of 18 feet. The other two buildings have overall heights of 20 and 22 feet. All building heights are well below the zoning limit of 30 feet.

NOISE

Currently, the well and distributive pumps along with associated valves and instrumentation at the MRBS are located outside. Several neighbors indicated that they can hear the pumps starting. They indicated that the future facilities should have provisions to mitigate noise impacts on the surrounding community. The facility will be constructed so that noise from the facility will not be audible from the property lines of surrounding residences. Some noise supression measures may include housing all pumps and other motor driven equipment in masonry buildings, using special doors and sound absorbing panels, and adding acoustical enclosures around the existing wells.

ODOR

The filtration process used to remove arsenic from the groundwater does not generate odor as a byproduct. This information was discussed with the citizens during the Open House meetings.

TRAFFIC

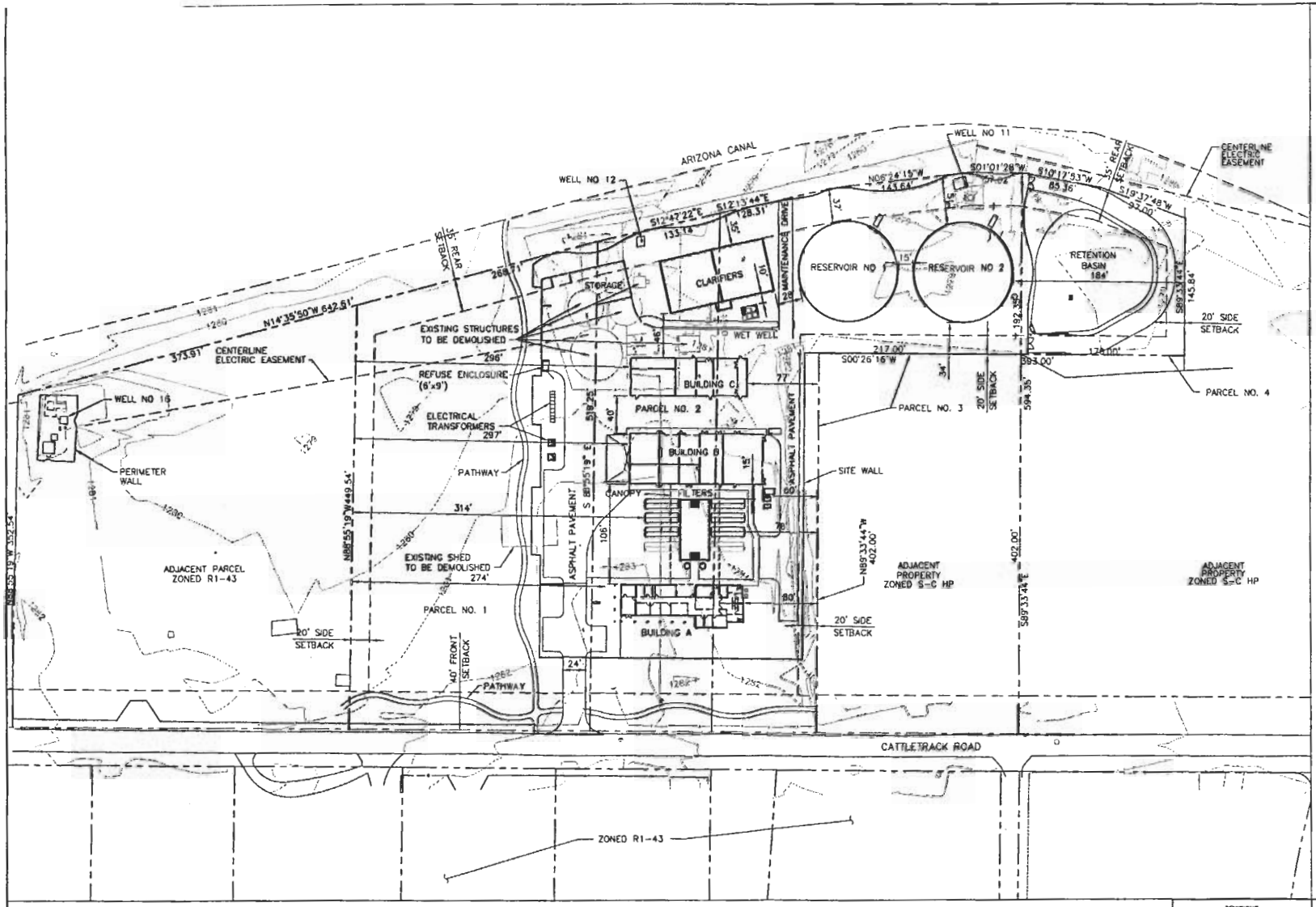
Cattletrack Road (Miller Road alignment) is classified as a minor collector between McDonald Drive and Lincoln Drive. It is not identified as a major street on the City's Streets Master Plan. Cattletrack Road consists of two lanes, one lane in each direction. The intersection of Cattletrack Road and McDonald Drive has a traffic signal.

A traffic study conducted by Scottsdale Engineering & Associates, Inc. indicated that the daily traffic volume along Cattletrack Road (Miller Road alignment) was 1,836 vehicles. The average speed of the vehicles measured was 33 miles per hour (mph); the 85th percentile speed was 40 mph. The study indicates that these volumes and speeds are consistent with a local collector street. Typically, minor collector streets are designed to accommodate traffic volumes of at least 5,000 vehicles per day. There are residential driveways along Cattletrack Road which are limited in number due to the large lot sizes present in this area.

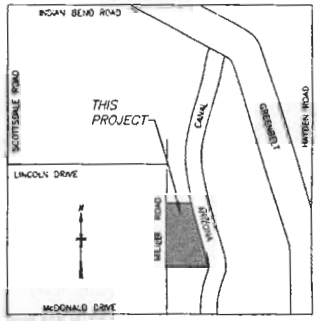
The traffic volume due to the PVARF will show a modest increase over the current operations due to increased operator attendance at the site, bulk chemical deliveries, and solid waste hauling. The estimated traffic volume is shown in the following table:

Type	Trip Frequency	Days Per Week	Vehicle	Trips Per Month	Trips per Workday
Customer	3/day	5	Passenger	60.0	3.0
Employees	20/day	5	Passenger	400.0	20.0
Plant Operators	4/day	7	Passenger	112.0	4.0
Distribution Crews	4/day	5	Single Unit Truck	80.0	4.0
Solids Hauling	1/week		WB-50	4	0.14
Chemical Delivery Ferric	1/month		WB-50	1	0.04
Chemical Delivery Caustic	2/month		WB-50	2	0.07
Chemical Delivery Hypochlorite	3/month		WB-50	3	0.11
Chemical Delivery Polymer	1/month		Single Unit Truck	1	0.04
				Total	**31**

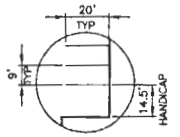
A WB-50 vehicle (large semi-trailer combination) will be used for the turning radii and geometric layout of plant drives. The entrance driveway will be paved with a colorized concrete to blend with the desert landscaping. Within the site wall, plant drives will be 20 feet wide and paved with asphaltic concrete except in the chemical unloading area, which will be concrete. Turning radii will be a minimum of 25 feet on the inside edge of pavement.



SE 1/4 SECTION 11; T2N R4E
6215 NORTH MILLER ROAD
SCOTTSDALE, ARIZONA 85250



VICINITY MAP
NOT TO SCALE



PARKING STALL DETAIL

LEGEND

- PROPERTY LINE
- CENTER LINE OF ROADWAY
- EASEMENT LINE
- SETBACK LINE

109-DR-2004
12/7/2004

SCALE IN FEET
1"=50'

STRUCTURES

DESC	DIMENSION FT x FT	GROSS FLOOR AREA, SF	MAX. HEIGHT, FT	PROPOSED USE
BLDG A	147 x 49	5,000	18	ADMINISTRATION, CUSTOMER SERVICE, LAB
BLDG B	142 x 53	7,300	18	PROCESS
BLDG C	124 x 41	4,700	22	PROCESS/MAINTENANCE
BLDG TOTAL		17,000		
RESERVOIRS	107 FT DIA	17,984	22	WATER STORAGE
CLARIFIERS	55 FT DIA	4,752	4	WATER RECOVERY
PROCESS TOTAL		22,736		

PARCEL DATA

PARCEL NO.	APN	CURRENT ZONING	PROPOSED ZONING	ACREAGE
1	174-13-931	R1-43	NO CHANGE	3.099
2	174-13-932	R1-43	NO CHANGE	1.6
3	174-13-934	R1-43 HP	NO CHANGE	2.33
4	174-13-935	R1-43 HP	NO CHANGE	0.90

PROJECT DATA

PREAPPLICATION NUMBER: 239-PA-2004

LOCATION:
6215 NORTH MILLER ROAD
SCOTTSDALE, ARIZONA

OWNER:
ARIZONA AMERICAN WATER
19820 NORTH 7th STREET
PHOENIX, ARIZONA 85024

ZONING:
CURRENT: R1-43 HP
(PARCEL NOS. 3 & 4)

PARKING SPACES
REQUIRED: 11, 2 (BLDG A ONLY)
PROVIDED: 17, 1 HANDICAP

OPEN SPACE
REQUIRED: 53,238.83 SF
PROVIDED: 129,095 SF

SITE AREA: (INCLUDES 0.86 AC OF PARCEL NO. 1)
GROSS: 247,856 SF
NET: 195,731 SF

REVISIONS

Paradise Valley Arsenic Removal Facility
CIVIL
OVERALL
SITE PLAN

ARIZONA AMERICAN WATER COMPANY
PARADISE VALLEY DISTRICT

DAMON S. WILLIAMS ASSOCIATES, LLC
2358 E. CAMELBACK ROAD, SUITE 700
PHOENIX, AZ 85016

DSWA

DRAWN BY SLB, PGH
PROJECT ENG'R RB
APPROVED

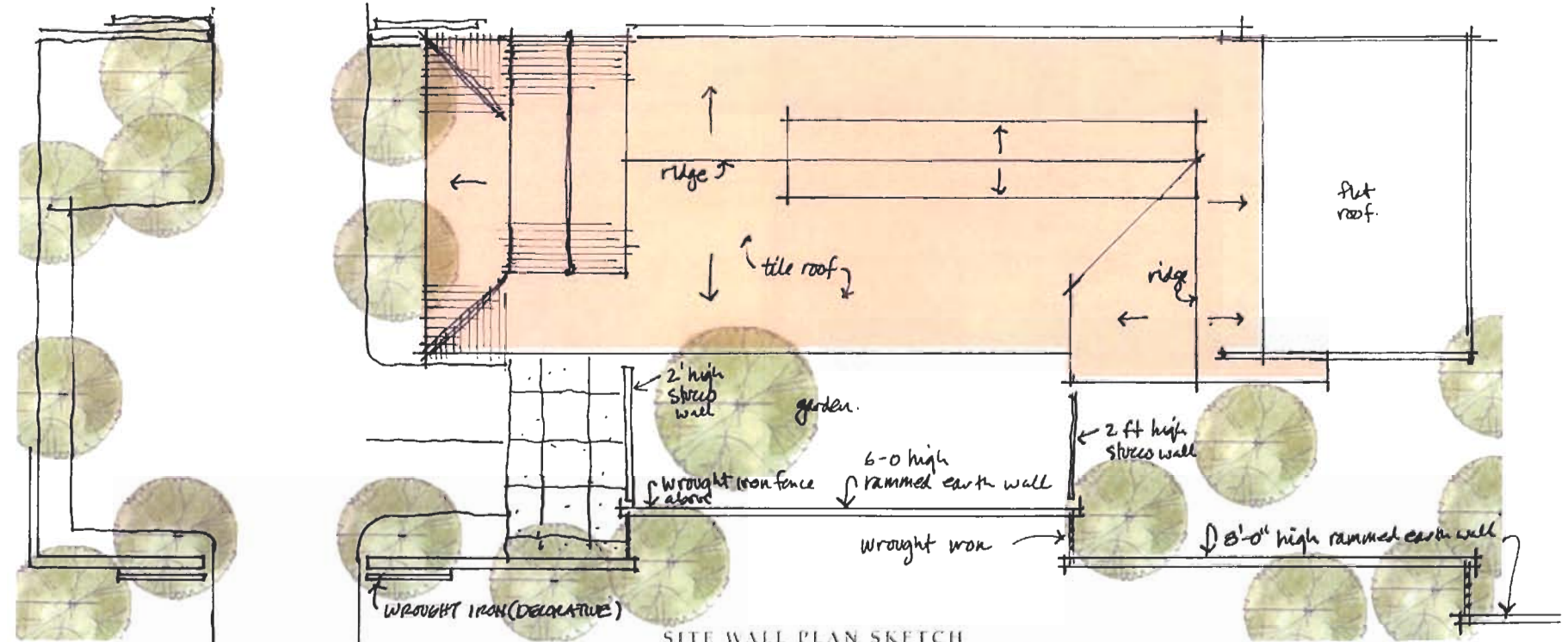
DATE DECEMBER 2004
PROJECT 23020203

USE DIMENSIONS ONLY
SCALE 1"=50'

USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES

230-0001-C01

PRELIMINARY



SITE WALL PLAN SKETCH

WEST ELEVATION STUDY

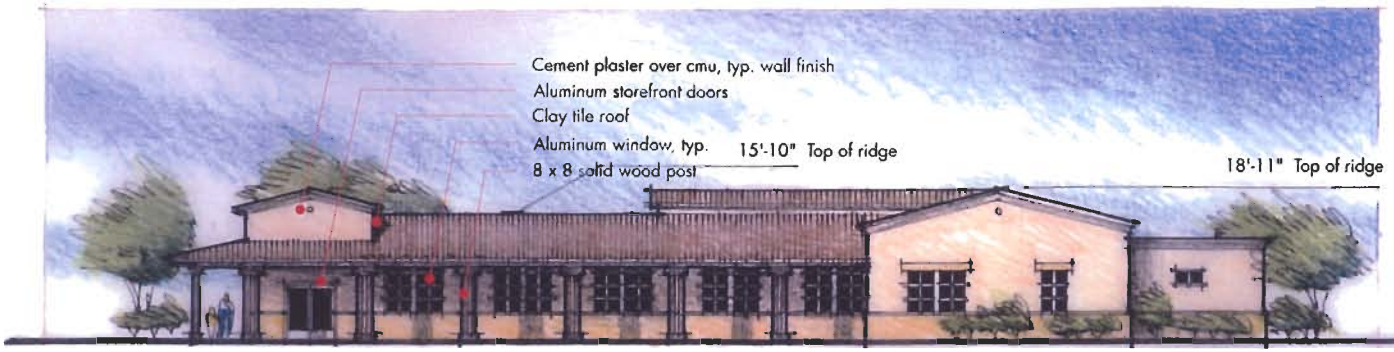
PARTIAL SITE PLAN OF RAMMED EARTH WALL

WEST ELEVATION OF RAMMED EARTH WALL IN FRONT OF ADMINISTRATION BUILDING

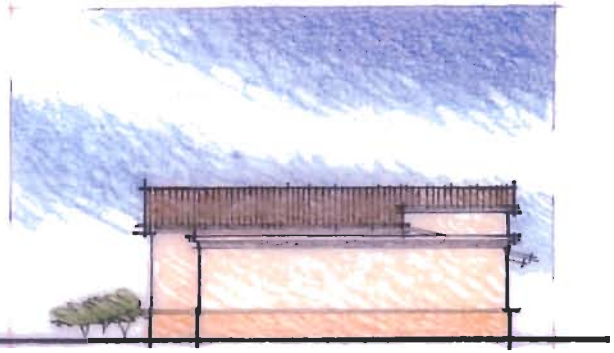
109-DR-2004
12/7/2004

ADMINISTRATION
BUILDING ELEVATION

DSWA



West Elevation



South Elevation

East Elevation

North Elevation

0' 10' 20' 30'

Admin. Building

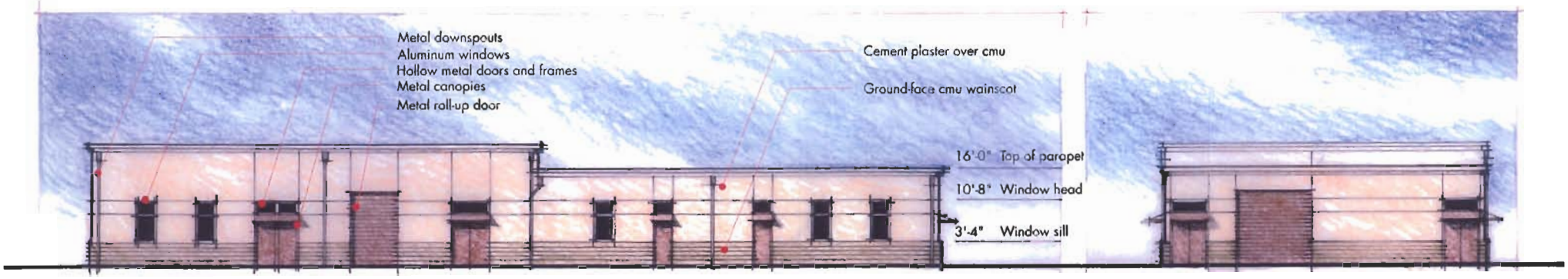
12.03.04

Paradise Valley Arsenic Removal Facility
Arizona American Water Company
Paradise Valley District

Damon S. Williams Associates, LLC

Michael Willis Architects

109-DR-2004
12/7/2004



West Elevation

South Elevation

East Elevation

North Elevation

0' 10' 20' 30'

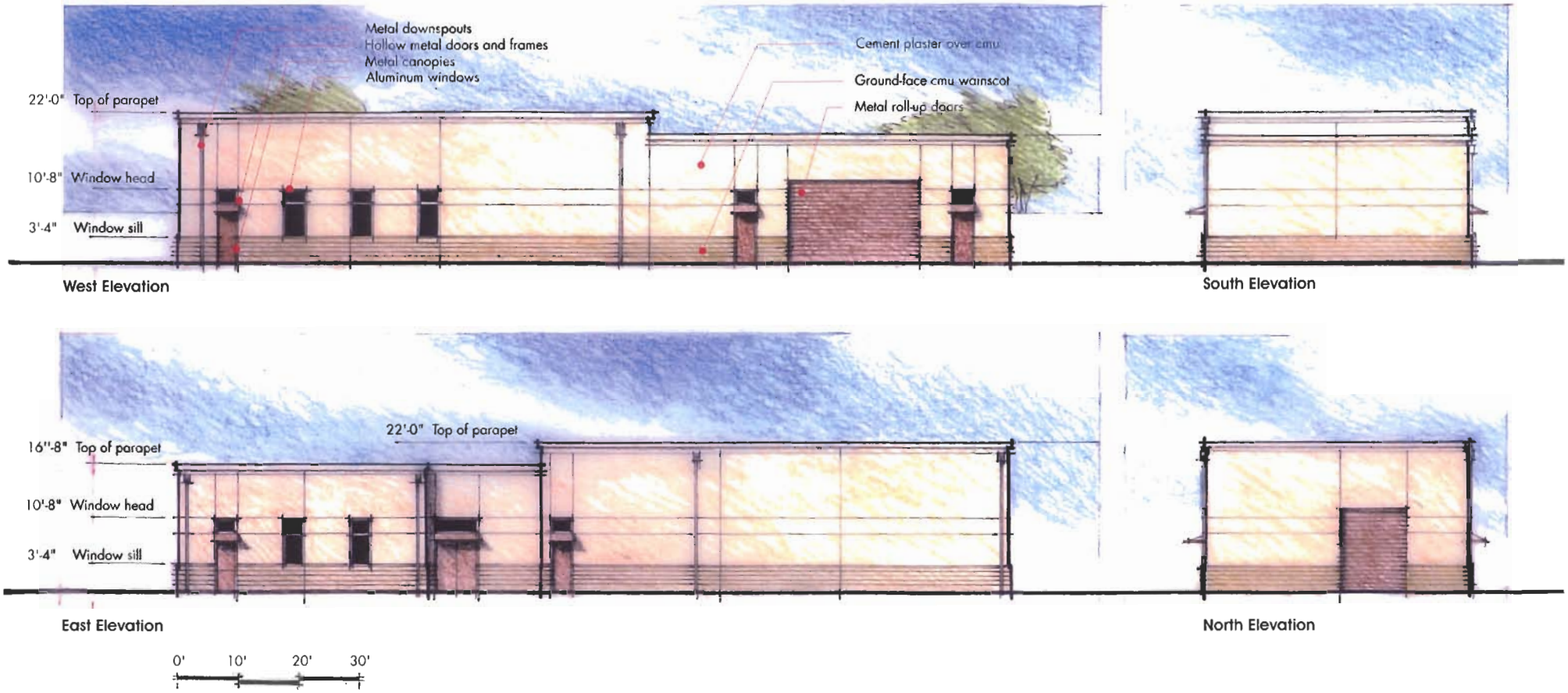
PROCESS BUILDING B

12.03.04

Paradise Valley Arsenic Removal Facility
Arizona American Water Company
Paradise Valley District

Damon S. Williams Associates, LLC

Michael Willis Architects



PROCESS BUILDING C

12.03.04

Paradise Valley Arsenic Removal Facility
Arizona American Water Company
Paradise Valley District

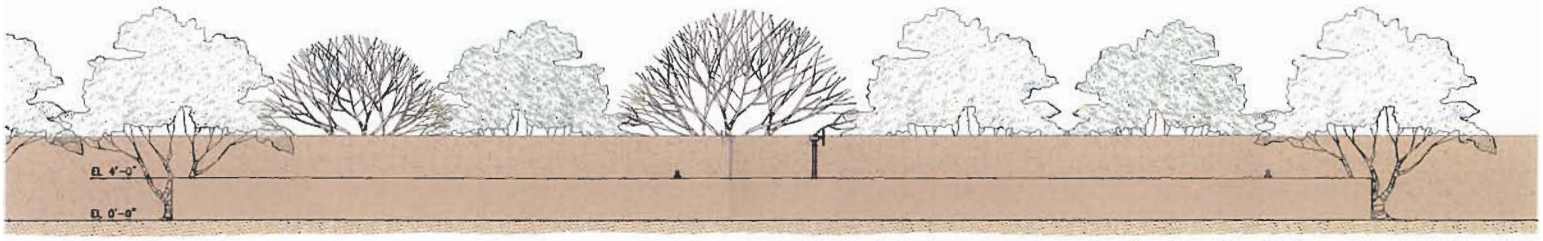
Damon S. Williams Associates, LLC

Michael Willis Architects

109-DR-2004
12/7/2004

1 NORTH ELEVATION
SCALE: 3/16"=1'-0"

2 SOUTH ELEVATION
SCALE: 3/16"=1'-0"



3 EAST ELEVATION
SCALE: 3/16"=1'-0"

4 WEST ELEVATION
SCALE: 3/16"=1'-0"

0 2 4 8
SCALE IN FEET
3/16"=1'-0"

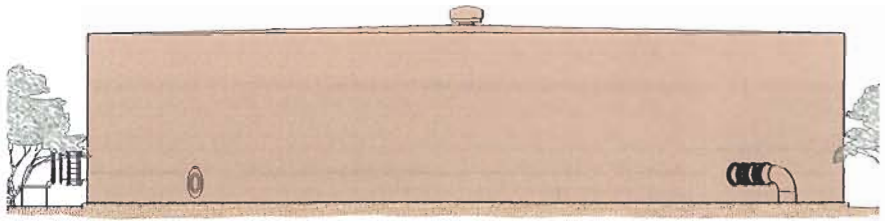
DSWA
DAMON S. WILLIAMS ASSOCIATES, LLC

Arizona American Water

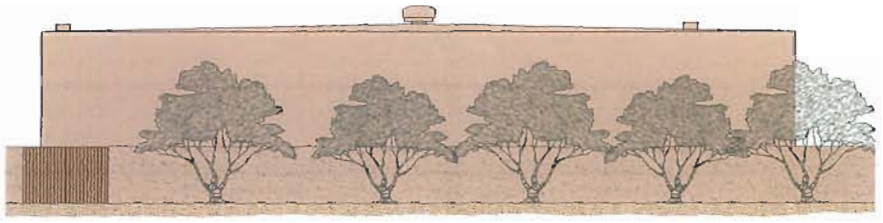
Paradise Valley Arsenic Removal Facility

BACKWASH CLARIFIER ELEVATIONS

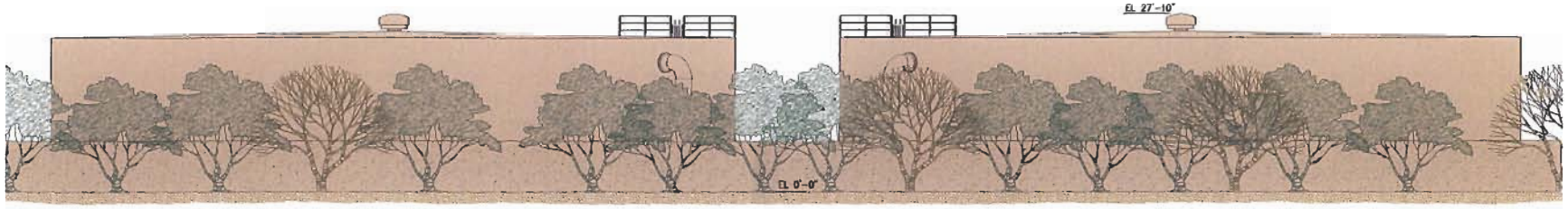
109-DR-2004
REV: 12/23/04



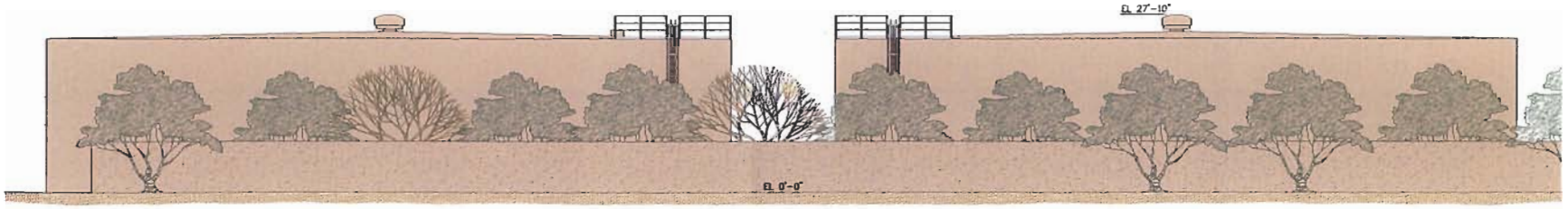
1 NORTH ELEVATION
SCALE: 1/8"=1'-0"



2 SOUTH ELEVATION
SCALE: 1/8"=1'-0"



3 EAST ELEVATION
SCALE: 1/8"=1'-0"



4 WEST ELEVATION
SCALE: 1/8"=1'-0"

0 4 8 16
SCALE IN FEET
1/8"=1'-0"

DSWA
DAMON S. WILLIAMS ASSOCIATES, LLC

Arizona American Water

Paradise Valley Arsenic Removal Facility

FINISHED WATER RESERVOIRS ELEVATIONS

109-DR-2004
REV: 12/23/04

WEST ELEVATION OF ADMINISTRATION BUILDING (RAMMED EARTH WALL IN FOREGROUND NOT SHOWN)

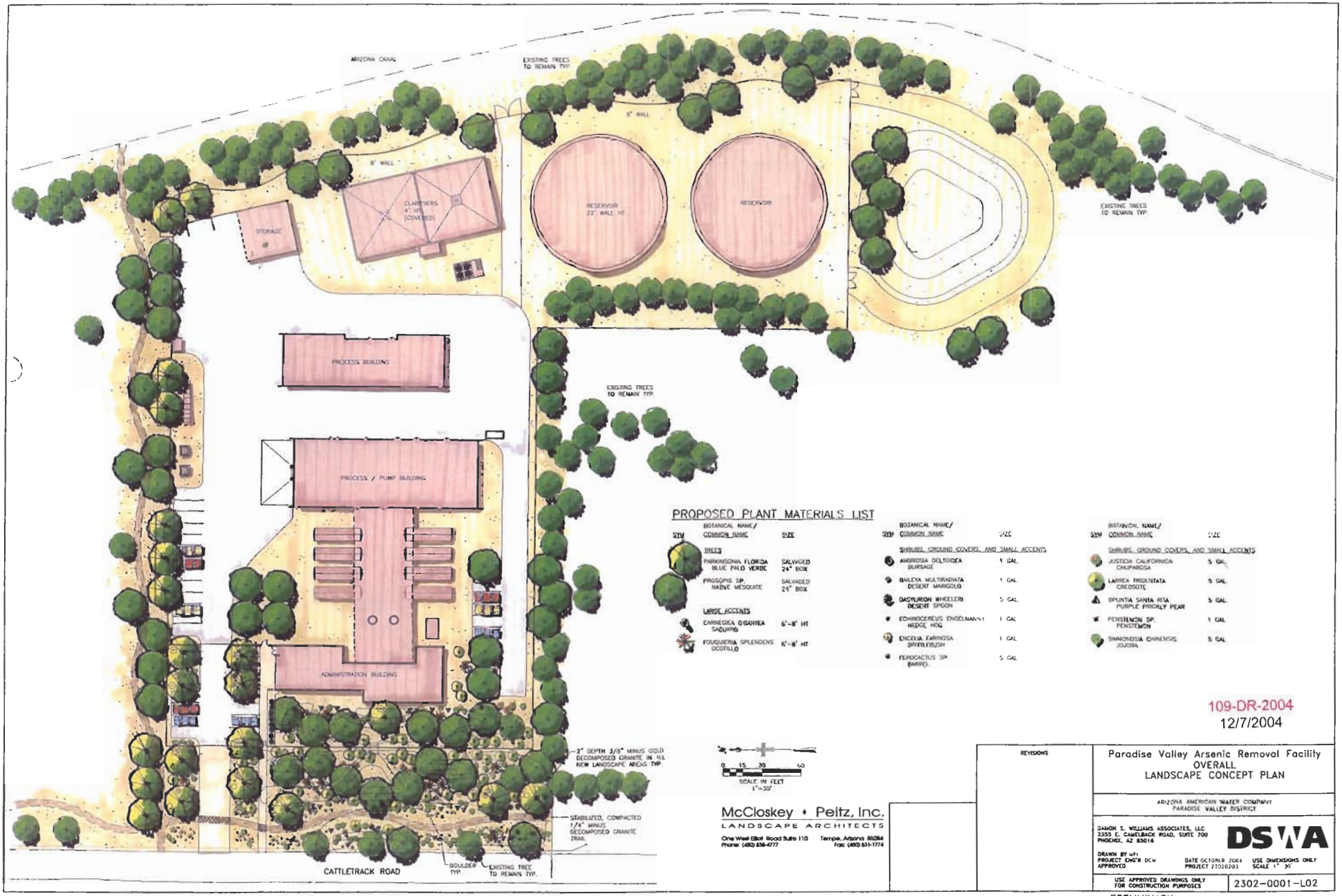
WEST ELEVATION OF RAMMED EARTH WALL IN FRONT OF ADMINISTRATION BUILDING

DSWA

109-DR-2004
12/7/2004

... from Cattletrack looking southeast

Paradise Valley Arsenic Removal Facilit...
ADMINISTRATION BUILDING



PROPOSED PLANT MATERIALS LIST

SYM	BOTANICAL NAME / COMMON NAME	SIZE
	TREES	
	PARKINSONIA FLORIDA BLUE PALO VERDE	SALVAGED 24" BOX
	PROSOPIS SP. NATIVE MESQUITE	SALVAGED 24" BOX
	LARGE ACCENTS	
	CARNEGIEA GIGANTEA SAGUARO	6'-8' HT
	FOUQUIERIA SPLENDENS OCOTILLO	6'-8' HT

SYM	BOTANICAL NAME / COMMON NAME	SIZE
	SHRUBS, GROUND COVERS, AND SMALL ACCENTS	
	AMBROSIA DELTOIDEA BURSAGE	1 GAL
	BAILEYA MULTIRADIATA DESERT MARIGOLD	1 GAL
	DASYLIRION WHEELERI DESERT SPOON	5 GAL
	ECHINOCEREUS ENGELMANNII HEDGE HOG	1 GAL
	ENCELIA FARINOSA BRITTLEBUSH	1 GAL
	FEROCACTUS SP. BARREL	5 GAL

SYM	BOTANICAL NAME / COMMON NAME	SIZE
	SHRUBS, GROUND COVERS, AND SMALL ACCENTS	
	JUSTICIA CALIFORNICA CHUPAROSA	5 GAL
	LARREA TRIDENTATA CREOSOTE	5 GAL
	OPUNTIA SANTA RITA PURPLE PRICKLY PEAR	5 GAL
	PENSTEMON SP. PENSTEMON	1 GAL
	SIMMONDSIA CHINENSIS JOJOBA	5 GAL

109-DR-2004
12/7/2004

0 15 30 60
SCALE IN FEET
1"=30'

McCloskey + Peltz, Inc.
LANDSCAPE ARCHITECTS
One West Elliot Road Suite 110 Tempe, Arizona 85284
Phone: (480) 838-4777 Fax: (480) 831-1774

REVISIONS

Paradise Valley Arsenic Removal Facility
OVERALL
LANDSCAPE CONCEPT PLAN

ARIZONA AMERICAN WATER COMPANY
PARADISE VALLEY DISTRICT

DAMON S. WILLIAMS ASSOCIATES, LLC
2355 E. CAMELBACK ROAD, SUITE 700
PHOENIX, AZ 85016

DSWA

DRAWN BY: MP1
PROJECT ENG'R: DCM
APPROVED

DATE: OCTOBER 2004
PROJECT: 23020203

USE DIMENSIONS ONLY
SCALE: 1" = 30'

USE APPROVED DRAWINGS ONLY FOR CONSTRUCTION PURPOSES

2302-0001-L02

PRELIMINARY